

ABSTRACT OF THE DISCLOSURE

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A method of scaling image and video processing computational complexity in accordance with maximum available quantities of computational resource units, the method including the steps of: performing a plurality of data multiplications which processes digital image and video data, each data multiplication having a data dependent value multiplied by data independent value, the performance of each data multiplication requiring a predetermined quantity of computational resource units; selecting one of the data multiplications; selecting a shift/add-, a shift/subtract or a shift-operation using the data independent value associated with the selected multiplication that requires a quantity of computational resource units which is less than the predetermined quantity of computational resource units required for performing the selected multiplication; and performing the selected multiplication with the selected operation. Also, a decoder which scales video and still image decoding computational complexity with available computational resources. The decoder includes a variable length decoder; an inverse quantizer which dequantizes signals received from the variable length decoder; an approximate inverse discrete cosine transform that scales decoding computational complexity in accordance with the above method; and a motion compensator